Section J

Public Services and Utilities

C-065380

WATER

Setting

Existing and Proposed Services

Water service to the project site consists of providing untreated surface water from the Calaveras and San Joaquin Rivers for irrigation of agricultural land. Irrigation water is pumped to the site using existing riparian water rights of the project proponents. Domestic water use at the site is supplied from wells. City water service in the vicinity of the project includes provision of a domestic water system north and east of the site. The California Water Service Company (CWSC) provides domestic water service south of the site and in portions of the City east of the site.

The project site would be provided domestic water service by the City of Stockton. It is located within the 34-square-mile North Stockton Master Water Plan (Master Water Plan) service area (Figure J-1).

City Water System. The closest City water distribution lines in the vicinity of the proposed project are located east of the site. This infrastructure consists of a 16- to 18-inch water main in March Lane and a 12-inch main in Feather River Drive. Existing City water facilities also include the 6-million-gallon (MG) Fourteen Mile Slough Reservoir located near the northeast boundary of the project site (Figure J-2). The Master Water Plan recommends that improvement of the water system should occur between 1985 and 2020 as development occurs throughout the City (Leedshill-Herkenhoff 1985). Major infrastructure extensions to the project site would include 12- and 16-inch mains (Figure J-2). As provided by Stockton Municipal Code, Section 16-166, the subdivision would be required to construct all improvements necessary to serve the project onsite and offsite.

Water Sources

Water sources for the City of Stockton include treated surface water purchased from the SEWD under a long-term contract, and groundwater pumped from City-owned wells.

Surface Water. The SEWD currently provides 20,000-30,000 af/yr (6.52-9.78 billion gallons per year) of water for urban use in Stockton (Steffani pers. comm.). The SEWD's present raw water source is the New Hogan Reservoir, via the Calaveras River and Stockton Diverting Canal.

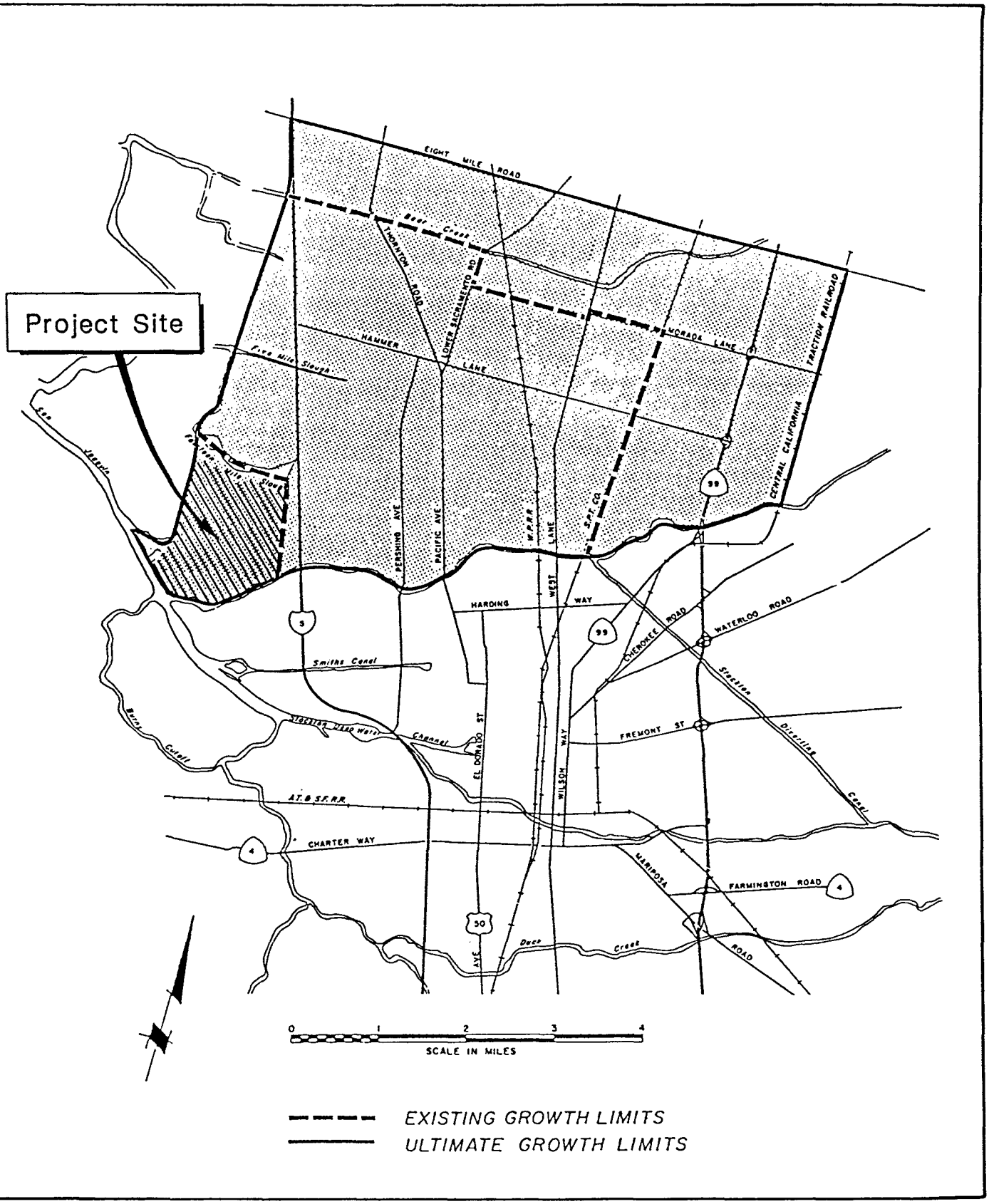

FIGURE J-1. NORTH STOCKTON MASTER WATER PLAN STUDY AREA

Source: Leedshill-Herkenhoff, Inc. 1985

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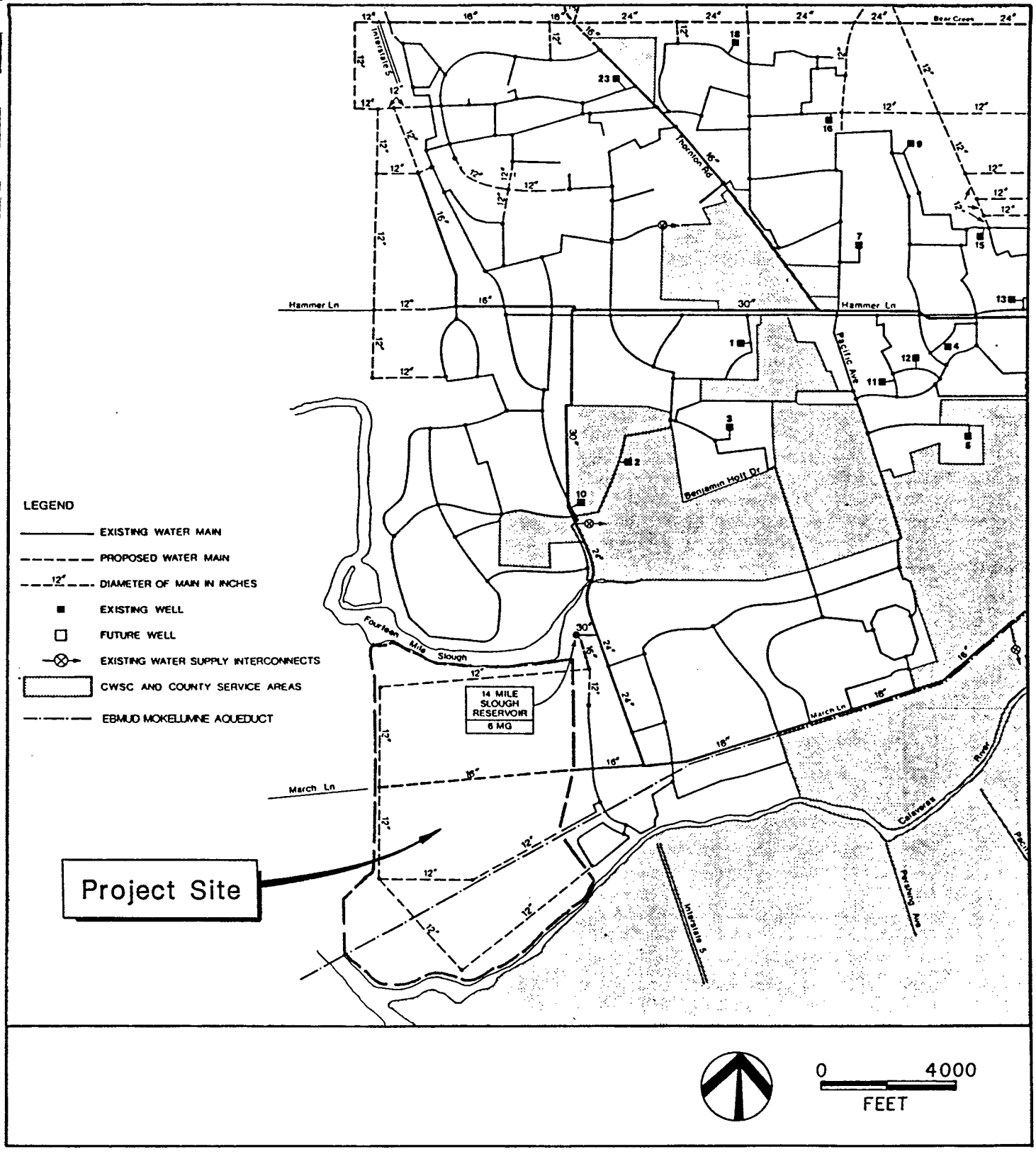

FIGURE J-2. EXISTING AND PROPOSED WATER FACILITIES

Source: Leedshill-Herkenhoff, Inc. 1985

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According to the SEWD staff, the district in December 1983 contracted with the U. S. Bureau of Reclamation (USBR) to receive 75,000 af/yr (24.5 billion gallons per year) from the New Melones Reservoir in Stanislaus County and will reserve up to 30,000 af/yr (9.78 billion gallons per year) of this additional supply for urban uses in the Stockton area (Steffani pers. comm.). SEWD's development of a conveyance system for the New Melones water has been delayed by the opposition of some affected landowners. However, the District is proceeding with the project design and some preliminary construction is currently under contract (Steffani pers. comm.).

Both reservoirs are considered "long-term interim supply" sources in the Master Water Plan, as SEWD's water rights may be preempted by those of other users. Starting in 1989 the City water system will receive about 10,000 af/yr (3.26 billion gallons per year) of treated water from the SEWD water treatment plant. This is made possible by completion of the City's new 48-inch pipeline from the SEWD treatment plant to North Stockton and an amendment to the contract between SEWD and three retail water agencies. City staff expects this 48-inch regional pipeline to be operational by October or November 1988 and to provide the necessary water delivery capacity for much of the new development in Stockton (Cox pers. comm.). Surface water provided for domestic use is treated at the SEWD treatment plant located on East Main Street near the diverting canal. Quality of SEWD treated surface water is considered excellent (Steffani pers. comm.).

The City has designed this 48-inch line with enough capacity to meet all of the treated surface water needs for the entire North Stockton water service area. It is also large enough to "wheel" treated water to the California Water Company's facilities in North Stockton.

Future water contracts between the City and SEWD would be based on an undetermined percentage of the total water delivered by SEWD for the previous year.

Groundwater. The primary water source for North Stockton is groundwater. The City currently operates 22 wells with a total capacity of approximately 23,220 gallons per minute (gpm) and an annual production of more than 4 billion gallons (Leedshill-Herkenhoff 1985). Several wells on the project site are not connected to the City system. These wells are used for domestic and agricultural purposes.

Groundwater pumping has historically been a safe and dependable source of municipal water. However, in recent years increased water demands have led to serious overdrafting of the groundwater basin in the Stockton area. The State of California has determined that the East San Joaquin groundwater basin, which includes the SEWD, is critically overdrafted. In 1971 the State Legislature made the finding that:

> The water supplies in the underground basin in the area of the SEWD are insufficient to meet the water demands of the area and, because of the geologic conditions peculiar to the area and because excessive pumping has seriously depleted the underground water storage, there has been an intrusion of saline waters into the underground water basin, causing serious water quality deterioration and the

destruction of the usefulness of a portion of the underground water basin. Further excessive pumping, without proper management of the underground water basin and the provision of supplemental water supplies, is certain to destroy the usefulness of a major portion of the underground water basin and endanger the health and welfare of the district (Steffani pers. comm.).

The average annual overdraft of the eastern San Joaquin County groundwater basin was determined to be approximately 70,000 af in 1985 (Brown & Caldwell). The annual overdraft is projected to be at least 200,000 af by 2020 if no additional surface water is obtained, and saline water is projected to intrude further east, under the western portion of the current urban area (Steffani pers. comm.).

Through increasing reliance on surface water sources, the City intends to reduce the strain on groundwater aquifers, thus enabling the aquifers to sustain themselves through the natural recharge process (Leedshill-Herkenhoff 1985). Groundwater quality in the project area will be discussed in Section D, "Hydrology and Water Quality." Groundwater currently pumped by the City of Stockton has been tested and found to meet all state water quality standards (Cox pers. comm.). Most of the City's production comes from wells in the eastern portion of the service area, but several excellent wells are located in the western portions of the City. Saline intrusion from the Delta is degrading groundwater quality in some western wells but has not seriously degraded any water supply wells operated by the City (Cox pers. comm.).

Water Master Plan

Capital Improvements. The Master Water Plan identifies a number of capital improvements to the existing Stockton water distribution system that will be needed to service the project site and its vicinity. This capital improvement plan includes estimated costs (in 1984 dollars) and a phased schedule for implementing recommended improvements. The plan is based on aggregate growth projections for the Stockton area, rather than specific projects of future land uses and intensities for the project site. Fiscal impacts associated with the proposed project are evaluated in Section K, "Fiscal Analysis." Financing of capital improvements needed to serve the proposed project would be incurred by the project developers as recommended in the Fiscal Public Facilities Study prepared by Recht Hausrath and Associates.

Several of the specific improvements that would be necessary to serve the proposed project are listed below.

- 30-inch March Lane intertie from the existing March Lane system at El Dorado Street to the 48-inch distribution line;
- 16-inch distribution main across the project site and in the vicinity of the Fourteen Mile Slough reservoir; and

- other miscellaneous 12-inch distribution lines on the project site as well as any of the mains, wells, reservoirs, or booster stations that would be required to serve the project.

The City has also indicated that an engineering analysis would be required that demonstrates the proposed water system improvements are sufficient for domestic usage and fire flows (based on peak-hour demand and maximum day demand plus fire flows). The analysis should cover full buildout within the existing City limits plus the Brookside project (Montgomery pers. comm.).

Water Main Extension Policies. According to the Master Water Plan, the City's water main extension policy entails developer financing of many of the improvements directly related to a project. These policies include:

- Water mains needed to meet water and fire flow demand requirements in a development are financed by the developer without reimbursement.

- The developer pays for all onsite and offsite mains that are required to serve the development, but the City reimburses the developer for the cost of oversizing mains (larger than 12 inches in diameter) that are required by the development and are requested by the City.

- The developer pays for all offsite mains needed to deliver water to the development, but the City reimburses the developer for a portion of the cost of installing mains larger than required to meet the demands and fire flow requirements in the new development (Leedshill-Herkenhoff 1985).

The Master Water Plan also recommends several changes in the existing policies. For further details, refer to page 7-2 of the plan (Leedshill-Herkenhoff 1985).

Project Impacts and Mitigation Measures

Impact: Increased Demand on Treated Surface Water Supply

Implementation of the proposed project would generate a demand for approximately 1.95 million gallons per day (MGD) at full buildout. This estimate is based on generation factors shown in Table J-1. The project's total annual water demand at buildout (712 MG or about 2,184 af/yr) is approximately 22 percent of the projected additional SEWD water available to the City (10,000 af/yr), 18 percent of the total annual well production in North Stockton (4 billion gallons) and 6 percent of the projected future annual water production requirements for the City in 2010 (Cox pers. comm. and Leedshill-Herkenhoff Inc. 1985). The project would also be required to meet City fire flow standards. Fire flow demands will be 3,000-3,500 gpm for the project site. The maximum Citywide fire flow requirement is 5,000 gpm for a duration of 5 hours (Leedshill-Herkenhoff 1985).

Table J-1. Average Water Consumption

Land Use	Measurement Unit	Generation Factor	Demand
Residential			
R-1	601.7 ac	2,144 gpd/acre	1,290,045
R-E	12.5 ac	2,144 gpd/acre	26,800
R-3	35.7 ac	3,751 gpd/acre	133,910
PURD			
R-1	34.9 ac	2,858 gpd/acre	99,744
Commercial/Professional			
C-R/C-2	56.60 ac	1,800 gpd/acre	101,880
Parks	15.2 ac	3,126 gpd/acre	47,515
Schools	65.5 ac	2,233 gpd/acre	146,262
Golf Course[a]			
Clubhouse	1,000 people[b]	160 gpcd[d]	160,000
Restaurant	200 people[c]	11 gpcd[d]	2,200
Recreation Center	3.80	2,233 gpd/acre	8,485
			1,956,841

[a] Does not include untreated water required for irrigation of the 247-acre golf course. Irrigation demand would be met by pumping from existing riparian waters.

[b] Based on expected sale of 500 golf memberships and 500 social memberships at the club (Huber pers. comm.).

[c] Based on the expected restaurant capacity (Huber pers. comm.).

[d] Source: Metcalf and Eddy, Inc. 1979.

Given the uncertainty of future surface water availability, existing groundwater overdraft problems, and increasing water demands from current and projected growth in the Stockton urban area, the expected increase in water demand from the proposed project represents a significant adverse environmental impact. This impact could be reduced to a less-than-significant level only if all of the following measures are implemented.

Mitigation Measures

- The City, through its contract with the SEWD, should increase treated surface water supply as needed to serve the project by constructing a conveyance system through Shirley Creek as planned at an estimated cost of $34 million. The applicant and successors in interest would pay a pro rata share of capital improvement costs. If this is not assured prior to project approval, a Statement of Overriding Consideration would be required.

- Complete necessary capital improvements to service the project site and its vicinity, as specified in the recommendations set forth in the Master Water Plan and the Fiscal and Public Facility Study (Recht Hausrath and Associates 1987) pending formal adoption by the City Council.

- Increase long-term use of all available surface water sources.

- Implement various water conservation measures for the project and Citywide, as indicated in the impact subsection below.

If water from New Melones Reservoir or other surface water sources are not available at the time of project buildout, this impact would be considered significant and unavoidable, or unresolved.

Impact: Increased Demand for Groundwater Supply

The safe yield for the groundwater basin underlying the City's portion of the North Stockton study area has been estimated at approximately 13,300 af/yr or 4.3 billion gallons per year. Annual well production in this area, estimated in 1985, is about 4 billion gallons per year (Leedshill-Herkenhoff 1985). Therefore, any additional sustained utilization of the existing groundwater supply could adversely impact the ability of the aquifer to adequately recharge. Development of wells on the project site or increased pumping of existing wells to serve the site could contribute significantly to the cumulative overdraft problems in the Stockton urban area. See "Cumulative Impacts and Mitigation Measures" below and Section D, "Hydrology and Water Quality," for further discussion of water quality impacts associated with groundwater overdraft. These impacts are considered to be significant. If proposed surface water sources are available at the projected time of buildout and the other measures listed below are implemented, this impact could be reduced to a less-than-significant level (Table D-1).

Mitigation Measures

- Complete Stockton water system capital improvements, as specified in the Water Master Plan and the Fiscal and Public Facilities Study (Recht Hausrath and Associates 1987).

- Minimize groundwater usage through increased, long-term use of domestic surface water sources and riparian sources for project irrigation.

- Implement various Citywide water conservation measures, as described below.

- Enforce plumbing fixture standards. The California Health and Safety Code Section 17921.3 requires that all new buildings have water-efficient water closets and urinals installed that use a maximum of 3.5 and 1.5 gallons per flush, respectively. Maximum flow rates for lavatory and sink faucets are specified in the California Administrative Code, as required by Public Resource Code Section 25402, and may not exceed 2.75 gpm at water pressures up to 80 pounds per square inch (psi).

- Implement landscaping program incentives. A City landscape water conservation program can provide incentives for low water-using landscapes (xeriscape) in new developments, can help persuade businesses to convert to low water-using landscaping, and can encourage everyone to economize in watering landscapes. Program options include reducing connection fees for new businesses with significantly reduced planting areas, providing a low water-using plant list for new developments, and preparing a public information package to illustrate the benefits of reduced water bills and attractive low water-using landscaping.

- Require metering of all new connections. Mandatory metering would encourage an equitable rate structure where users would pay according to the actual costs they are imposing on the system. The use of water meters and seasonal rates tends to reduce summer water use, allowing agencies to stretch the capacity of existing treatment and water storage facilities and to defer or minimize the costs of needed capital improvements.

Cumulative Impacts and Mitigation Measures

Impact: Increased Demand for Service

Cumulative development projected in North Stockton would generate a demand for approximately 16,500 af/yr (15 million gpd). Assuming that 90 percent of future demand would be met by using surface water, projected growth in North Stockton would require at least 80 percent of the SEWD's current urban surface water supply, or at least 50 percent of the future urban water supply that the SEWD plans to draw from New Melones Reservoir. Due to the magnitude of projected demand, water supply constraints,

and competition for available supplies, this is considered a significant and unavoidable impact. This impact, however, could be partially reduced by implementing the measure identified below.

Mitigation Measures

- Apply the water supply and conservation measures identified above in "Project Impacts and Mitigation Measures" throughout the Stockton General Plan area, especially in areas of future growth.

Impact: Groundwater Depletion

Although developing agricultural land for urban purposes does not generally increase gross regional water demands (1 acre of land uses approximately the same annual volume whether farmed or developed for medium density residential purposes), many agricultural areas proposed for cumulative development use irrigation water that is not available for urban use (such as Delta water and water from Woodbridge Irrigation District). Therefore, additional development in North Stockton could substantially increase the demand for groundwater, especially if adequate surface water sources are not available for conjunctive use (Steffani pers. comm.). However, if the water supply is provided from New Melones Reservoir, SEWD expects that by 2020 demand for groundwater will have declined by about 46,000 af/year (Table D-1). This impact is considered significant, but could be reduced to a less-than-significant level by implementing the measures identified under "Increased Demand for Groundwater Supply," above.

Mitigation Measures

- Implement all of the mitigation measures identified under "Increased Demand for Groundwater Supply," above.

WASTEWATER

Setting

Existing Services

The project site is not currently serviced by the City of Stockton collection and treatment system. Wastewater from agricultural lands drains into onsite ditches toward the northern portion of the project and then is pumped offsite to Fourteen Mile Slough. Refer to Section D, "Hydrology and Water Quality," for a discussion of existing drainage patterns in the project site. Other onsite uses rely on septic systems.

City Wastewater System

The project site is located in a future growth area (FGA) 34, outside the existing and proposed wastewater collection zones. According to the City's Wastewater Collection System Master Plan (Wastewater Master Plan) (Nolte and Associates 1987), extension of a wastewater collection system to the project area would require construction of new wastewater lines and pump stations south along Interstate 5 (I-5), across the Stockton Deep Water Channel to the treatment plant. Improvements in the project site and immediately east of the project will be provided as part of the new collection system No. 10. Specific capital improvements required to provide service to the project site are described below.

The Stockton metropolitan area is served by the City of Stockton Regional Water Quality Control Plant (RWQCP), located on Navy Drive in west Stockton. Since the mid-1970s, this plant has taken over the role formerly assumed by smaller wastewater treatment plants, whose liquid wastes are now transported directly to the regional plant by interceptor lines. The RWQCP provides tertiary treatment for wastewater and has a maximum design capacity of 76 MGD (Birdzell pers. comm.). Following treatment, effluent is discharged into the San Joaquin River.

Wastewater Master Plan

The Wastewater Master Plan identifies a number of capital improvements needed to increase the capacity of the City's wastewater collection system to service developed and future growth areas, including the project site and its vicinity, as shown in Figure J-3. This capital improvement plan provides estimated costs (in 1986 dollars) and a phased schedule for implementing recommended improvements. Fiscal impacts of capital improvements are evaluated in Section K, based on the RHA study. The City has indicated that the project proponents would be required to finance all capital improvements (Section 16-165 Stockton Municipal Code) required to adequately serve the proposed project. The plan is based on aggregate growth projections for the Stockton area, rather than project-specific projections of future land uses or densities. Required improvements shown in the Wastewater Master Plan for the project vicinity include the following:

- extension of a 27-inch main to the project site with tributary lines ranging from 12 to 18 inches;
- construction of a new 33-inch force main pipeline from March Lane (node F 1005) south along the I-5 frontage road, across the Calaveras River (node F 1006);
- construction of a new 42-inch main from the Calaveras River to the Smith Canal pump station (node F 1007);
- expansion of the capacity at the existing Smith Canal pump station;
- construction of a new 42-inch force main from the Smith Canal pump station across the Stockton Deep Water Channel to node F 1008; and

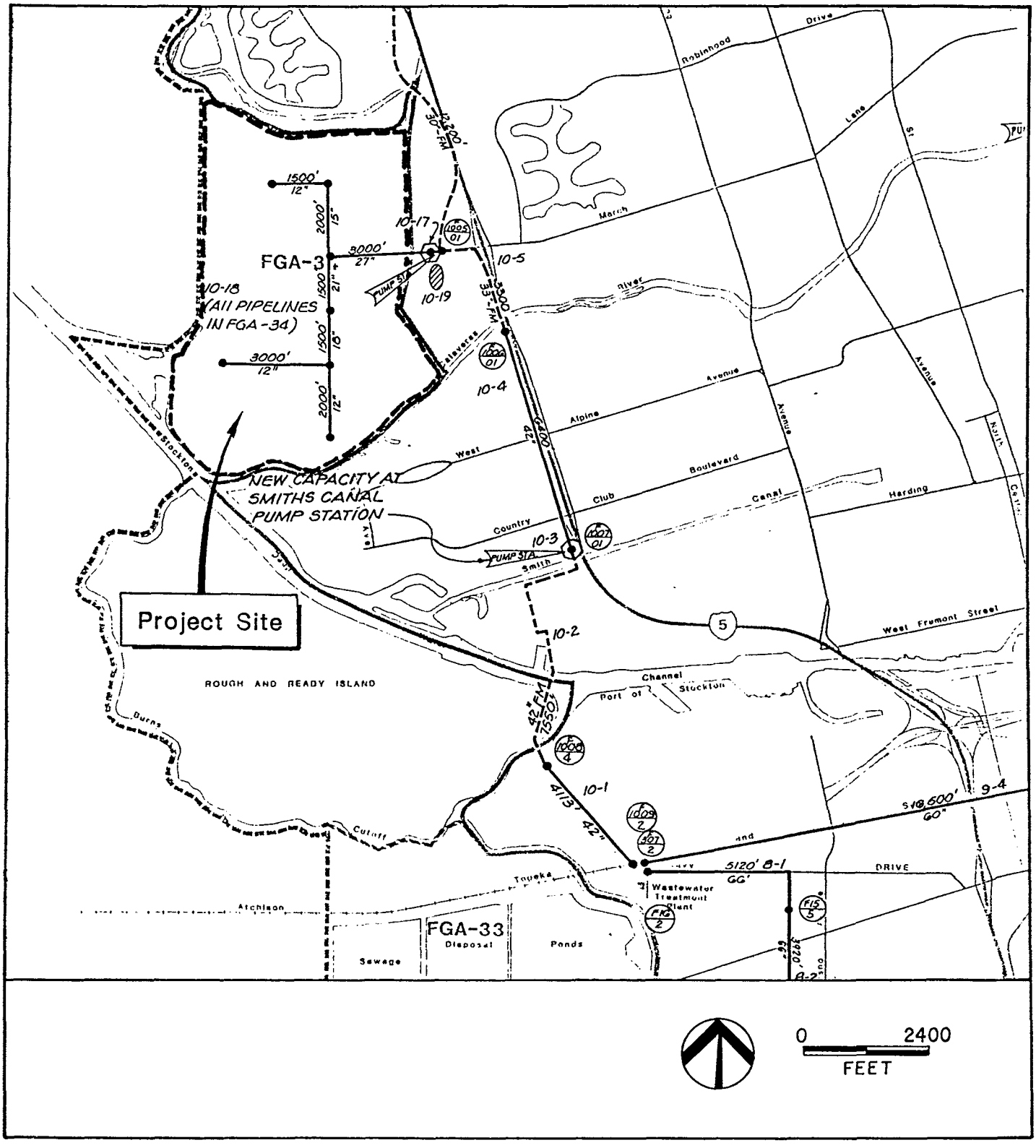

FIGURE J-3. PROPOSED WASTEWATER FACILITIES

- construction of a new 42-inch main from node F 1008 to the wastewater treatment plant.

Project Impacts and Mitigation Measures

Impact: Increased Generation of Wastewater

Implementation of the proposed project would generate an estimated wastewater flow of 1.38 MGD at buildout. This estimate is based on generation factors shown in Table J-2 and wastewater flow projections and analysis provided in the Wastewater Master Plan. Actual wastewater volumes would vary, depending on the types of businesses locating in the C-2 zoned parcels. (See "Project Description" and "Land Use," respectively, for more specific land use and zoning information.)

According to the Wastewater Treatment and Sludge Management Master Plan, certain operations at the City's central wastewater treatment plant are at or near their functional capacity (Metcalf and Eddy 1987). The Wastewater Master Plan indicates that peak wet weather flows at the RWQCP have reached 72 million gpd during the canning season, just 4 million gpd less than the plant's estimated capacity. Based on this information, estimated wastewater demand from the project would represent approximately 35 percent of the remaining capacity of the existing waste treatment plant, given flow and plant capacity estimates provided in the Wastewater Master Plan.

The RWQCP has adequate overall capacity at present to provide wastewater treatment services for the proposed project. However, due to the limited capacity of the existing treatment plant and increased wastewater demands on the City system from existing and future urban uses, the projected demand for wastewater treatment from the proposed project represents a significant adverse impact that can be reduced to a less-than-significant level by implementing the following measures:

Mitigation Measures

- Complete necessary capital improvements specified in the Wastewater Master Plan, including expansion of the RWQCP secondary treatment plant and/or extended operation of the tertiary plant between 1987 and 2000 (Metcalf and Eddy 1987).

Development of the proposed project and vicinity would also require additional wastewater collection improvements north of the project site. Figure J-3 shows the improvements proposed as part of collection system No. 10. These impacts are unresolved because funding mechanisms have not been adopted. Fiscal impacts will be analyzed further in the DEIR.

Table J-2. Average Wastewater Generation

Land Use	Number/Area	Generation Rates Planning Values	Demand (gpd)
Residential			
R-1	2,283 units	300 gpd/unit[a]	684,900
R-E	12 units	300 gpd/unit[a]	3,600
R-3	1,035 units	270/gpd/unit[a]	279,450
PURD			
R-1	209 units	300 gpd/unit[a]	62,700
Commercial/Professional			
BP/ Commercial	27.8 acres	2,400 gpd/acre[a]	66,720
Commercial/ Retail	28.8 acres	2,000 gpd/acre[a]	57,600
Parks	15.2 acres	200 gpd/acre[a]	3,040
Schools			
High school	41.1 acres	1,400 gpd/acre[a]	57,540
Elementary	24.4 acres	1,800 gpd/acre[a]	43,920
Golf course[b]			
Country Club	1,000 members	120 gpcd[c]	120,000
Restaurant	200 patrons	3 gpcd[c]	600
Recreation Center	3.80 acres	200 gpd/acre	760
TOTAL			1,380,830

[a] Source: Nolte and Associates 1987.

[b] Does not include wastewater from irrigation of 201-acre golf course. Irrigation water would be supplied from water sources currently available to the project proponents.

[c] Source: Metcalf and Eddy, Inc. 1979.

Cumulative Impacts and Mitigation Measures

Impact: Increased Wastewater Flow Generation

Cumulative development projected in north Stockton would generate average dry weather wastewater flows of approximately 7.9 million gpd. Peak wet weather flows to the RWQCP would increase by more than 25 percent from present levels under cumulative buildout conditions to a maximum of more than 90 MGD, based on peaking factors calculated in the Wastewater Master Plan (Nolte and Associates 1987). This demand would exceed the maximum design capacity of the existing treatment plant by approximately 22 percent.

Due to the magnitude of projected demand and wastewater collection and treatment facility constraints, this is considered to be a significant impact. This impact could be mitigated to a less-than-significant level by implementing the measure identified below.

Mitigation Measures

- Apply the capital improvements and conservation measures identified in the section above "Project Impacts and Mitigation Measures" throughout the Stockton General Plan area, especially in areas of future growth.

STORM DRAINAGE

Setting

Existing Conditions

The project site is not provided with City storm drainage services. Drainage water is conveyed throughout the site by a series of irrigation ditches to a pump station located at the northern boundary of the site. The drainage water is then pumped to Fourteen Mile Slough. The pump station and drainage ditches are maintained by Reclamation District 2074. Refer to Section D, "Hydrology and Water Quality," for a description of onsite and offsite hydrology.

The Master Storm Drainage Map for San Joaquin County (R. W. Siegfried and Associates and Nolte & Associates 1973), indicates that proposed pipelines ranging from 33 inches to 48 inches would serve the northeastern portion of the project site, terminating in a pump station near Fourteen Mile Slough. Most of the site lies outside the study area boundary and has no storm drainage infrastructure planned.

Project Impacts and Mitigation Measures

Impact: Increased Generation of Runoff

Implementation of the proposed project would result in increased runoff due to construction of impermeable surfaces. This impact is considered less than significant, because much of the project drainage could be stored on-site, as discussed below.

Storm drainage improvements for the proposed project area would be divided between two subgroups: the lake area and the golf course area. Drainage for lots surrounding the lake would be designed to flow into a gravity line and then discharged into the lake, which would serve as a 47.6-acre retention basin. An easement for the lake is to be dedicated to the City as a storm water retention basin.

The golf course lot area is to be developed as a private community with a privately maintained storm drainage system. The golf course is to be depressed at a lower elevation than the adjacent residential areas. Storm runoff from the surrounding lots and private streets will be designed to drain into the golf course drainage system. Small lakes throughout the golf course could be used as retention basins. Runoff from the golf course will not drain to the 47.6-acre lake.

Preliminary plans indicate that storm water overflow from the lake retention basin and runoff from the golf course areas will be discharged to a common trunkline and then to a pump station to be located at the westerly terminus of the proposed March Lane extension. Storm water will then be pumped to Ten Mile Slough, eventually discharging into Buckley Cove and the San Joaquin Deep Water Channel. Both the trunkline and pump station are to be dedicated to the City for operation and maintenance. Refer to Section D, "Hydrology and Water Quality," for a further description of the internal drainage system.

Since all capital improvements for storm drainage would be provided by the project developer, impacts of the system on the City are preliminarily considered less than significant and no mitigation is necessary. Refer to Section D, "Hydrology and Water Quality," for a discussion of urban runoff impacts on offsite river quality and hydrology.

The lake retention basin and the golf course water features could provide substantial storm water storage capacity for the project site, thus reducing peak flows from the site into north Buckley Cove. This feature of the project could mitigate adverse impacts associated with increased runoff from the site. Specific calculations and working drawings would be required to determine the extent to which project design reduces peak period runoff impacts.

Mitigation Measures

- None required. Refer to Mitigation Measures in Section D, "Hydrology and Water Quality."

Cumulative Impacts and Mitigation Measures

Impact: Increased Demand on Regional Drainage Capabilities

Runoff from cumulative development during a severe storm could cause localized flooding in some areas of the City and could create significant impacts on the drainage channels in the Stockton area. During a bank-full stage, storm water pumping from cumulative developments could contribute to flooding, particularly if adequate onsite storage is not required of all new Stockton developments. This impact is considered potentially significant. To reduce this impact to a less-than-significant level, the following mitigation measures should be implemented.

Mitigation Measures

- Require new developments to provide onsite retention basins with adequate capacity to retain runoff for the duration of a 100-year storm event. The retention basins could be designed as gently sloping storage structures that could be planted with grass and used as park and open spaces during nonpeak runoff periods.

- The City should continue to review flood management programs by FEMA and San Joaquin County Flood Control and Water Conservation District.

SOLID WASTE

Setting

Waste Collection Services

The City of Stockton has negotiated contracts with private firms for garbage collection services in designated municipal areas. Sunrise Sanitation provides this service in the project vicinity, and would be expected to serve residents and businesses there. Garbage is hauled to the City's Austin Road landfill. Yard, street, and park refuse are hauled to French Camp landfill on Manthey Road by the Stockton Waste Collection and Streets Division and Stockton Department of Parks and Recreation. The Lincoln Unified School District provides its own waste collection services. Those who wish to make individual hauls must use landfill sites operated by San Joaquin County (Simon and Walker pers. comms.). City street sweeping and garden refuse collection are not provided in areas where streets are private.

Landfill Sites

The Austin Road landfill processes more than 300 tons of waste per day. The remaining capacity of this site is approximately 6 years. In anticipation of its eventual saturation, alternatives are being considered.

One alternative is to acquire land adjacent to the existing facility and to continue filling in that area. A second alternative is to establish a transfer station and to haul solid waste to the Foothill Landfill. Neither alternative presently includes any resource recovery plans (Walker pers. comm.).

Project Impacts and Mitigation Measures

Impact: Generation of Increased Solid Waste

Implementation of the proposed project would ultimately generate approximately 55.4 tons of solid waste per day from all planned residential and commercial uses, based on estimated generation rates and development assumptions shown in Table J-3. This amount of solid waste represents 18.5 percent of the current daily tonnage received at the Austin Road landfill. Given the remaining capacity of this landfill site and the potential capacity of alternative sites, this impact is considered to be less than significant. In addition, solid waste removal and disposal services are paid for by user fees. Therefore, fiscal impacts regarding solid waste disposal are not expected to be significant.

Mitigation Measures

- None required.

Cumulative Impacts and Mitigation Measures

Impact: Increased Generation of Solid Waste

Cumulative development projected in North Stockton would generate more than 500 tons per day of additional solid waste, or nearly double the current daily tonnage processed at the Austin Road landfill. Due to the magnitude of projected demand, the limited capacity of existing landfills, and uncertainty concerning development of new or expanded landfill sites, this is considered to be a significant impact. This impact could be mitigated to a less-than-significant level by implementing the measure identified below.

Mitigation Measures

- Comply with City impact fee ordinance that is used to increase landfill capacity by expanding existing sites as feasible and acquiring additional sites as needed.

SCHOOLS

Setting

Information in this section was provided by the facility planner of the Lincoln Unified School District (LUSD) (Areida pers. comm.).

Table J-3. Solid Waste Generation at Project Buildout

Land Use	Daily Generation Rate[a]	Generation Base at Buildout	Tons Per Day
Residential	6.5 lbs per capita	9,362 residents[b]	30.4
Commercial	10 lbs per 100 sf	493,000 sf[c]	25.0
TOTAL			55.4

[a] Sources: San Joaquin County Solid Waste Management Plan (1986); Stockton Public Works Department, Waste Collection and Streets Division.

[b] Based on 5 percent housing vacancy rate and estimated household size of 2.77 persons.

[c] Based on estimated occupied floor area ratio of 0.20.

Existing Facilities

The project is located in the south-central section of the LUSD, which includes urban areas of north Stockton and unincorporated areas of the San Joaquin Delta. A map of the district, which identifies existing school sites, is shown in Figure J-4. The LUSD has five conventional elementary schools (grades K-6); two expanded elementary schools (grades K-8); one high school (grades 9-12), Lincoln; one alternative high school, McCandless; and one continuation high school, Sture Larrson.

Classrooms have been added within the last 2 years to Lincoln High School and three elementary schools. The LUSD presently uses nearly 40 portable classrooms, with approximately half of these located at Lincoln High School. No LUSD schools currently operate on a year-round schedule, and no scheduling change of this kind has yet been considered.

Enrollment

Current K-12 LUSD enrollment is approximately 8,100 and has been growing at an average annual rate of 3 percent. Enrollment in 2000 is projected to be 10,220. This estimate is based primarily on buildout of the Brookside project site, as there is little remaining developable land elsewhere within LUSD boundaries.

Based on the capacity of existing facilities, the LUSD has determined that schools are overcrowded by approximately 1,000 students and considers this number of students to be presently "unhoused." Lincoln High School has a design capacity of 1,800-2,000 and an enrollment of approximately 2,500. As a result of additions to elementary schools, overcrowding has generally not been a problem in grades K-8.

Proposed Facilities

The LUSD has obtained preliminary (Phase I) approval from the Office of Local Assistance (OLA) for one new school, which will have a capacity of 665 and house students in grades K-8. The district plans to build this school on a 14.5-acre site within the Brookside development.

Based on current facility needs and projected enrollment increases resulting from project implementation and infill development, the district expects that it will need to build one other K-8 school and one new high school. Sites for these additional schools have been identified within the Brookside project area, as shown in Figure J-4. The high school would be designed for approximately 1,600-1,800 students.

School Facility Financing

State Building Program. The district relies on the state (Leroy Greene) program for funding of new construction and projects. No LUSD general fund monies are used, and no additional funding sources have been

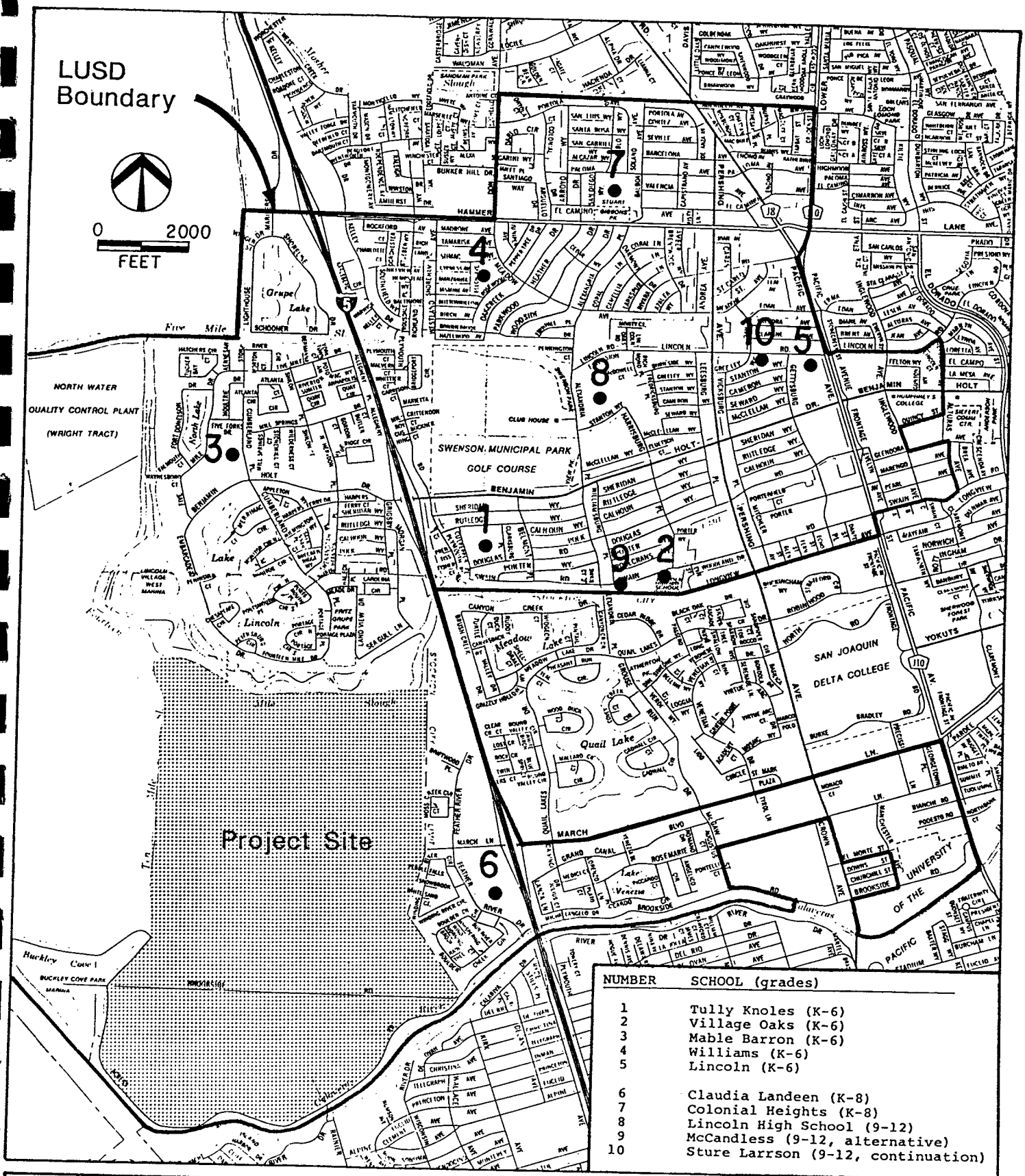

FIGURE J-4. EXISTING SCHOOLS IN PROJECT VICINITY, LINCOLN UNIFIED SCHOOL DISTRICT (LUSD)

C—065401

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considered. Eligibility for additional state funding of new school construction projects will depend on when new housing development in these areas is approved and completed. State funding restrictions and increasing competition have caused a growing number of districts to defer construction of new school facilities or seek alternative financing sources.

School Impaction Fees (AB 2926). The LUSD assesses maximum allowable fees of $1.53 and $0.25 per square foot, respectively, on new residential and commercial or industrial development, as authorized under AB 2926. Some development is exempt, while other development is subject to lower fees under SB 201 (1978) or preexisting development fee agreements.

AB 2926, which became effective January 1, 1987, authorizes school districts to directly levy "a fee, charge, dedication, or other form of requirement" on new development, based on findings that such development contributes to a need for construction of new facilities or reconstruction of existing facilities. Maximum fee levels are to be increased annually based on inflation. Fee revenues are to be used for necessary capital improvements and may be used to lease or acquire interim facilities such as portable classrooms in order to alleviate overcrowding.

Necessary and Sufficient Mitigation Under AB 2926. AB 2926 stipulations that assessment of maximum allowable impaction fees or an equivalent charge, dedication or other requirement satisfies the legal requirement for mitigation of any "environmental effects related to the adequacy of school facilities when considering the approval or the establishment of conditions for the approval of a development project" under CEQA. This provision evidently precludes implementation of any mitigation measure(s) as a condition of project approval under CEQA which, singly or jointly, would exceed in value the total of maximum applicable impaction fees.

Due to this limitation, implementation of authorized fee assessments or equivalent mitigation measures under CEQA may not, in fact, reduce identified school impacts to a less-than-significant level. Other in-kind or in-lieu mitigation measures may be applied under project review standards or procedures which are independent of this CEQA process.

Project Impacts and Mitigation Measures

Impact: Increased Demand for Facilities and Services

Enrollment Growth. Project implementation would increase K-12 LUSD enrollment by approximately 2,300 at buildout (by 2010) as shown in Table J-4.

The project would be primarily responsible for future LUSD enrollment growth, since the Brookside site represents most of the remaining developable land within the district. The project would be expected to increase existing K-12 enrollment by nearly 30 percent over a period of 20 years at an average annual rate of approximately 1 percent. Under current state regulations, funds allocated to the LUSD for general operating expenses would be increased based on districtwide attendance.

Table J-4. School Enrollment Projections

	Housing Units		
	Single-family	Multi-family	Total
Number of occupied units[a]	2,378	983	3,361
Student generation rates[b]			
K-8	0.60	0.20	N/A
9-12	0.25	0.10	N/A
K-12	0.85	0.30	N/A
Projected enrollments			
K-8	1,427	197	1,624
9-12	595	98	693
K-12	2,022	295	2,317

[a] Based on 5-percent vacancy rate.

[b] Estimated number of LUSD students per occupied dwelling unit.
Source: LUSD Facility Planning Department.

For planning purposes, it has been assumed that all proposed PURDs within the project will consist of conventional single-family, R-1 housing units. Estimates would be expected to vary if PURDs include either single-family estate lots or congregate retirement housing, as allowed under current zoning.

Facility Needs. The three schools planned onsite are expected to substantially meet the needs for new facilities created by the project. The proposed high school would be able to house more than 1,000 students from other areas, and could therefore alleviate future overcrowding in grades 9-12.

An increase in the effective capacity of the two K-8 schools proposed on the project site may eventually be necessary to house the number of K-8 students generated by project households, if placement of proposed project students in offsite district schools proves infeasible. This could be accomplished through acquisition of portable classrooms, construction of permanent additions to these facilities, or modification of school schedules.

The process of obtaining necessary funding for construction of new facilities is presently slow and difficult, as indicated above. For these reasons, the increased demand on LUSD schools from the proposed project is considered to be a significant adverse impact.

Mitigation Measures

- Assessment of in-lieu fees or implementation of equivalent mitigation measures as authorized by AB 2926 would constitute legally sufficient mitigation of this impact. However, these measures may not reduce the actual impact of the project to a less-than-significant level, because of the limitations of this legislation.

- The school district should consider increasing the capacity of existing facilities through extended (e.g., year-round) schedules, if necessary.

- The school district should consider transferring students from project households to schools located offsite, if necessary.

- The school district should consider using impaction fees and other available revenues to lease or purchase portable facilities, if necessary.

- The school district should consider negotiating agreements which would provide for school site dedication and/or school construction by private interests, with reimbursement of specified costs by the LUSD, if necessary.

- If needed state funds are unavailable or inadequate, the school district should consider creating a Community Facility District or other local assessment district. This would enable the LUSD to issue bonds and use the bond proceeds to finance various capital improvements, with the bonded indebtedness to be repaid from fees assessed on affected property owners for the term of such bonds.

Impact: Cost of Necessary Capital Improvements

New Construction. The LUSD has received preliminary state approval and funding for construction of the first K-8 school planned for the project site, and expects to receive necessary subsequent financing from the state based on current LUSD eligibility for state funding as determined by the OLA. The construction cost for this school is estimated to be $4.5 million in current dollars (Recht Hausrath & Associates 1987).

The LUSD may not be as successful, however, in obtaining state support for construction of two additional schools (K-8 and high school) onsite, due to state funding restrictions for school capital improvement projects, increasing statewide demand for the limited available funds, and the LUSD's possible competitive disadvantage on future applications because projected enrollment growth is relatively low. The cumulative construction cost of these two schools is estimated to be $22.5 million.

Modernization. For the reasons indicated above, it may also become increasingly difficult to obtain state funding of needed modernization projects such as additions to existing schools. An increase in the effective capacity of the two K-8 schools proposed for the project site eventually may be necessary to house the number of K-8 students generated by project households, should placement of Brookside students in offsite district schools prove infeasible. This growth plan could be accomplished through acquisition of portable classrooms, construction of permanent additions to these facilities, or modification of school schedules.

Given the uncertain availability of necessary state support for future capital improvement projects, the cost of building the additional schools that would be required to house students generated by the project is considered to be a potentially significant adverse impact. This impact could be mitigated to a less-than-significant level by implementing the measures identified above (see "Increased Demand for Facilities and Services).

Mitigation Measures

- Implements measures as indicated under "Increased Demand for Facilities and Services," above.

Cumulative Impacts and Mitigation Measures

Impact: Increased Enrollment

Cumulative development projected in North Stockton would increase K-12 enrollment by approximately 15,000. Based on present school district boundaries, the Lodi Unified School District would be expected to absorb the largest share of this increase. An estimated 12-13 elementary schools, three to four middle schools, and two to three high schools would need to be constructed within the next 20 years to house this student population.

Due to the magnitude of projected enrollment growth, current overcrowding of school facilities, and the general difficulty of obtaining neces-

sary funding to provide adequate school housing, this is considered to be a significant impact. This impact could be mitigated to a less-than-significant level by implementing the measure identified below.

Mitigation Measures

- o Apply the school housing measures identified above in "Project Impacts and Mitigation Measures," throughout the Stockton General Plan area and in all affected school districts, especially in areas of future growth.

PARKS AND RECREATION

Setting

Existing Facilities in the Project Vicinity

Existing parks and recreation facilities in the vicinity of the project site are Buckley Cove Park and Marina and Fritz Grupe Park. The 53.3-acre Buckley Cove Park/Marina is located on a spur off Access Road, north of the Calaveras River and immediately west of the project site. This area includes an approximately 5-acre area devoted to passive recreational uses such as picnicking, fishing, and a tot lot play area. The balance of this site approximately 47 acres, is devoted to boat launching, parking, and marina uses. The 20.5-acre Grupe Park, located north of the site and across Fourteen Mile Slough, is not easily accessible from the project site (Nordstrom pers. comm.). Necessary access could be provided by a pedestrian bridge crossing of the slough to Grupe Park.

The applicant has proposed an extension of Feather River Drive, west of I-5, which would include a bridge crossing of Fourteen Mile Slough for vehicular and pedestrian use. Such a bridge would improve access to Grupe Park from the project site.

The City currently has a master lease with EBMUD for the utility right-of-way, which extends southwest from the City limits and across the project site to the Calaveras River. This lease may be terminated with 30 days' notice. Through sublease agreements with private companies, the City maintains a bicycle path and landscaped areas on a portion of this right-of-way that lies within City limits. The City also has an adopted plan by the Metropolitan Park and Recreation Commission for a looped bicycle/jogging path connecting the proposed bicycle/jogging path on the north bank of the Calaveras River with a path along the EBMUD right-of-way (Seifert pers. comm.).

The proposed master plan would negate this proposed loop by placing an 18-hole golf course in its place. A possible tradeoff would be to construct the bikeways along Brookside and March Lanes. This would still allow a connection between the two paths and allow for access to EBMUD adjacent to Brookside Farms and the Estate Parcel.

City Park Planning Objectives

The City has established a planning objective of providing "neighborhood" park space at a minimum ratio of 1 acre per 1,000 persons living within the service area (0.5-mile radius) of such a park. Neighborhood park sites are typically 5-10 acres and are located next to elementary schools, if feasible, for optimal public use of available playground or other outdoor recreational areas. The City also maintains a standard of developing larger (15- to 30-acre) "community" parks, at the same minimum acreage-to-population ratio, within a 1-mile radius of all households.

The City has identified the general shortage of adequate, accessible park space in newly developed residential areas within the project vicinity, north of the Calaveras River, as a principal planning need and priority (Community Development Department 1980).

The Calaveras River Levee Proposed Bikeways Plan was adopted in May 1983 by the Metropolitan Parks and Recreation Commission (MPRC). The bikeways plan has been implemented in stages by the city council through the C.I.P. annually since 1983, and a bikeway is currently constructed on the north levee of the Calaveras river from east of El Dorado Street to west of I-5 Freeway at Feather River Drive. The path does not currently extend west into the project area as this parcel is located in the county. By adoption of the C.I.P. in 1983, the city council has set City policy for the continuation and expansion of the bikeway/jogging path along the north bank of the Calaveras River to Buckley Cove (Seifert pers. comm.). This plan proposes a bike path along the levee of the river, at the southern edge of the project site from West Lane to Buckley Cove (Seifert, Nordstrom, and Niblock pers. comms.).

As indicated in the "Land Use" section, the City's Bicycleway Plan map (1980) shows a proposed Class I bike route along this section of the Calaveras River, but does not clearly indicate whether this route is to be located north or south of the river.

City Parks Fees

The City of Stockton currently assesses mandatory park development fees on new housing units. A fee of $320 per unit is charged for development of 501- to 1,000-square-foot units, and a fee of $385 per unit is charged for units of 1,000 square feet or more. These revenues are used by the City to acquire and develop new park sites. Park sites are acquired at fair market value (Nordstrom pers. comm.). Based on the RHA study, these fees should be nearly doubled to cover the entire cost of purchase of land and construction of parks and a recreation center in the north Stockton area.

Proposed Onsite Facilities

The project includes a 15.2-acre park located south of an 11.3-acre school site. Public use of the park could be complemented by recreation facilities and open space in the school site. This conjunctive use of

parkland and school facilities would require a cooperative agreement between the City and LUSD that delineates the conditions for both public use of school facilities, and school activities in park areas. Maintenance of the park and school should be provided jointly by the City and the LUSD. Separation of school and park areas could be accomplished, if needed, with a fence, landscape berm, or other similar buffer.

Facilities with private access to be developed include a 248-acre golf course, 47-acre lake, and 4-acre recreation center site. The proposed golf course is located in the southeastern section of the property. The lake and recreation center are located in the northern half of the project site. These features are identified in the project site plan (Figure 3).

Project Impacts and Mitigation Measures

Impact: Increased Demand for Facilities and Services

Based on a projected population of 9,800 at full buildout and the service standards indicated above, approximately 10 acres of neighborhood park space and 10 acres of community park space would be needed to adequately serve the project.

The need for community park space would be met by use of Buckley Cove Park/Marina and Grupe Park. However, the project as proposed appears to provide insufficient neighborhood park space. Because of its location, the effective service area of the single park that has been designated within the project would be limited to northern residential portions of the site.

Additional recreation facilities would be needed to serve planned residential areas in the central and southern sections of the site, based on current City park planning standards (Nordstrom pers. comm.), even though the proposed park meets the City's acreage standards. The unmet need for recreation facilities that could serve households in the southern section of the project site represents a significant impact. This impact could be mitigated to a less-than-significant level by implementing the following measures.

Mitigation Measures

- Develop additional recreation facilities in the southern portion of the project site. These facilities could include a neighborhood swimming pool or expansion of the proposed school site to include additional recreation facilities.

- Finance and provide necessary capital improvements and services by requiring the applicant and successors in interest to pay a pro rata share of costs as recommended in the RHA report.

Impact: Inconsistency with the Metropolitan Parks and Recreation Commission Bikeways Plan and the Current City C.I.P.

The project site plan (Figure 3) does not include a bikeway along the Calaveras River at the southern perimeter of the site. The MPRC Calaveras River Bikeway Plan proposes the development of a bicycle path along the levee of the Calaveras River from West Lane to Buckley Cove. The SPRD has completed the first and second phases of this bikeway, extending from West Lane 3.3 miles to Feather River Drive as a part of the City's C.I.P. (Seifert pers. comm.).

As indicated in Section A, "Land Use," the City's (adopted) Bicycleway Plan Map (1980) shows a proposed Class II bike route along this section of the Calaveras River but does not clearly indicate its location.

Since the project is inconsistent with the MPRC Calaveras River Bikeway Plan that has been implemented through the City's Capital Improvement Program (CIP) (Siefert pers. comm.), this impact is considered potentially significant and unresolved. The City has indicated that a bikeway would be recommended along the northern bank of the Calaveras River (Seifert and Niblock pers. comms.) but final determination of what would be required to reduce this impact to a less than significant level is uncertain.

Mitigation Measures

- The owner/developers should provide access easements to and along the Calaveras River to allow for extension of the proposed bicycle/jogging path.

- The City should negotiate with the project proponent regarding the location of onsite bikeways so that adherence to the intent of the Stockton General Plan and other policies may be accomplished. The resolution of this issue could require a policy decision by the city council that takes into account interpretation of the adopted City policies, and a legal decision as to the ability of the City to require compliance with the bikeway plan.

- The project would require an amendment to the City's adopted Bikeway Plan to change the location of the proposed bike path.

Impact: Precluding Public Access to Navigable Waterways

The proposed project could restrict public access to the Calaveras and San Joaquin Rivers and Fourteen Mile Slough. The proposed project does not include public easements (other than at Buckley Cove) that allow access to the bank of the Calaveras River. City policy (see Section A, "Land Use") and the Subdivision Map Act (Sections 66478.1 through 66478.10) indicate that "reasonable public access should be provided to the banks of navigable waterways." Section 66478.4 of the Subdivision Map Act states that:

- o No local agency shall approve either a tentative or a final map of any proposed subdivision to be fronted upon a public waterway, river or stream which does not provide, or have available, reasonable public access by fee or easement from a public highway to that portion of the bank of the river bordering or lying within the proposed subdivision.

Subsection (b) of this section further states that "reasonable public access shall be determined by the local agency in which the proposed subdivision is to be located," in consideration of the following:

- o that access may be by highway, foot trail, bike trail, horse trail, or any other means of travel;

- o the size of the subdivision;

- o the type of riverbank and the various appropriate recreational, educational, and scientific uses including, but not limited to, swimming, diving, boating, fishing, waterskiing, scientific collection, and teaching; and

- o the likelihood of trespass on private property and reasonable means of avoiding such trespasses.

Section 66478.5 also enables local agencies to require "dedication of a public easement along a portion of the bank of [a] river or stream bordering or lying within the proposed subdivision."

Finally, Section 66478.8 indicates that "this article does not require a local agency to disapprove either a tentative or final map solely on the basis that reasonable public access otherwise required by this article is not provided through or across the subdivision itself, if the local agency makes a finding that such reasonable public access is otherwise available within a reasonable distance from the subdivision."

Thus, this impact is significant and can only be reduced to a less-than-significant level by implementing the following mitigation measure.

Mitigation Measures

- o The project proponents should provide access to and along the Calaveras and San Joaquin Rivers at the southern boundary of the project and to and along Fourteen Mile Slough at the northern boundary according to provisions set forth in the Subdivision Map Act (Sections 66478.4 and 66478.5).

Cumulative Impacts and Mitigation Measures

Impact: Increased Demand for Facilities and Services

Cumulative development would create a need for approximately 56 acres of neighborhood and community park space, respectively, based on current

City standards and an estimated population increase of 56,000 under the cumulative development scenario. Due to the magnitude of this need and current North Stockton parks and recreation facilities deficiencies, this is considered to be a significant impact. This impact could be mitigated to a less-than-significant level by implementing the following measure.

Mitigation Measures

- Develop future parks to serve newly developed areas in north Stockton, consistent with current City standards, by acquiring and developing sites on a timely basis as needed.

LIBRARY SERVICES

The following analysis of library services is based on information provided in Chapter 10 of the Fiscal and Public Facilities Study 1987), which was prepared by Recht Hausrath & Associates (RHA) for the City of Stockton, and information provided by a representative of the Stockton/San Joaquin County Public Library (SPL) (Brown pers. comm.).

Setting

Existing Facilities

The SPL system is operated by the City of Stockton, with joint funding by the City and San Joaquin County. It currently includes the Central Library, located on North El Dorado Street in downtown Stockton, and nine branch libraries.

The Margaret Klausner Troke (Troke) branch library, located on West Benjamin Holt Drive, is the only SPL facility in North Stockton. The Central and Troke Libraries are approximately 4 and 5 miles from the project site, respectively. Use of the 14,000-sf Troke Library currently exceeds its effective capacity. SPL staff indicate that the 70,000-sf Central Library is less crowded, but that it has limited additional capacity.

In terms of branch library space, North Stockton is the least well-served area of the county. Its ratio of 0.13 sf per capita (sf/c) is approximately 50 percent less than the countywide estimate of 0.27 sf/c and 75 percent less than the 0.55 sf/c ratio for central and south Stockton areas.

Library Service Plans and Standards

A report recently completed by David Sabsay for the SPL, the Library Building Location Study, recommends that two new branch libraries be constructed in north Stockton to remedy current deficiencies and to provide for

further growth. One of these branches would be located in northwest Stockton.

This study suggests that branch libraries be designed to serve a population of 40,000-50,000 and indicates that 0.50 gross sf/c should be provided by branch libraries for the population of their respective service areas. However, based on the RHA study and discussion with SPL staff, the gross building space standard has been reduced to 0.41 sf/c for planning purposes.

The RHA study anticipates that 40,000 sf of new branch library space will be needed in north Stockton by 1995 and that an additional 28,000 sf will be needed at or near the time of full project buildout.

Project Impacts and Mitigation Measures

Impact: Increased Demand for Service

Based on an estimated population of 8,450 (estimated in the RHA study) at full buildout and the 0.41 sf/c space standard, approximately 3,500 sf of additional branch library space would be needed to adequately service residents of the project. This would represent a 25 percent increase of existing library space in North Stockton and 9 percent of the necessary total increase in North Stockton library space over the next 25 years as projected by RHA.

Because of the existing library space shortage in North Stockton, this increase in demand would represent a significant impact. This impact could be mitigated to a less-than-significant level implementing the following measures.

Mitigation Measures

- The City should acquire a library site in northwest Stockton and build a branch facility on a timely basis to serve the project site and its general vicinity as needed.
- Require the applicants and successors in interest to pay a pro rata share of library development costs as recommended in the RHA report (Section K).

POLICE SERVICES

Information concerning police services was provided by representatives of the San Joaquin County Sheriff's Department and Stockton Police Department (Stewart and Spivey, respectively, pers. comms.).

Setting

The San Joaquin County Sheriff's Department currently provides law enforcement services to the project site and unincorporated areas in its vicinity as needed. Historically, service calls in the general project area have been minimal. Most calls have concerned agricultural equipment thefts, rural residential burglaries, and occasional traffic accidents.

If annexed to the City of Stockton, the project site would be served by the Stockton Police Department (SPD). The SPD currently employs 245 sworn officers and serves a population of 190,000. The ratio of police officers to population served is estimated to be 1.28:1,000. The SPD considers current staffing to be inadequate, based on service demands, and recommends increasing the staffing population ratio to 2:1,000. In 1986, the SPD responded to approximately 240,000 calls for service.

The average Citywide response time is 23 minutes during winter months and approximately 33 minutes during summer months. These figures apply to the time between receipt of service calls and officer's arrival. The Department responds to calls on a priority basis by dispatching roving patrol units from the downtown control station. There are 17 patrol beats throughout the City, including one in the west Stockton area. Service calls to incorporated areas in the project vicinity generally concern petty thefts and burglaries.

Project Impacts and Mitigation Measures

Impact: Increased Demand for Law Enforcement Services

The SPD expects the proposed development to significantly increase service calls for burglaries, thefts, and traffic-related problems. The SPD suggests that additional funding be provided to allow for a staffing increase to a standard of two sworn officers per 1,000 population. Based on a cumulative population estimate of 9,800 for the proposed project and the SPD's current staffing ratio, 14 additional officers would be required to serve this population. Nineteen officers would be required, based on the SPD's proposed staffing standard. This impact is considered significant but could be mitigated to a less-than-significant level by implementing the following measure.

Mitigation Measures

- The applicant and successors in interest should contribute a pro rata share of the cost to finance and provide necessary capital improvements and services, as indicated in Section K.

Cumulative Impacts and Mitigation Measures

Impact: Increased Demand for Service

An additional 78-112 officers would be needed to provide adequate police services in North Stockton under the cumulative development scenario, based on current and suggested staffing ratios as described above. Due to existing staff and budget constraints, an increase of this magnitude would represent a significant impact. This impact could be mitigated to a less-than-significant level by implementing the following measure.

Mitigation Measures

- o Increase SPD staffing and facilities as required to adequately serve future development in north Stockton, as discussed in Section K.

FIRE AND EMERGENCY MEDICAL SERVICES

Information on fire protection services was provided by representatives of the Stockton Fire Department (SFD) (Hymes and Ross pers. comms.).

Setting

If annexed to the City of Stockton, the SFD would provide fire protection and emergency medical services to the project site. The closest existing City fire station is located at March Lane and Feather River Drive (Engine Company No. 10). The nearest SFD ladder company is located at Robinhood Drive and Pacific Avenue (Company No. 4) (Hymes pers. comm.).

The SFD currently employs approximately 245 fire fighters. Its present Insurance Service Office (ISO) fire fighting capability rating has been reduced from Class 1 (the best possible classification) to Class 2. ISO rating reductions are associated with higher fire insurance costs. Classification is based on several factors, including response time and water system specifications. Average Citywide response time is 3 minutes. City standards require fire flows of 3,000-3,500 gallons per minute at 20 pounds per square inch and installation of sprinkler systems.

No particular fire hazard problems exist in the project vicinity. Most calls from the project site are expected to be for medical emergencies.

Project Impacts and Mitigation Measures

Impact: Increased Demand for Service

Service to the project area would increase demands on SFD staff and equipment. At buildout the proposed development will exacerbate the need for an additional engine company in the northwest portion of the City since

Engine 10 is operating at close to 100 percent. Truck service (Company No. 4) is already beyond acceptable response distance. The proposed project would accelerate the need for an additional truck company in the north area.

An expected increase in emergency medical calls probably will require Engine 10 to be upgraded to a paramedic engine.

These impacts are considered significant but could be mitigated to a less-than-significant level by implementing the following measure.

Mitigation Measures

- The applicant and successors in interest should contribute a pro rata share of the costs to finance and provide necessary capital improvements and services, as indicated in Section K.

Impact: Extended Response Times to the Project Site Due to Circuitous Access

The SFD has indicated that several access routes near the golf course could unnecessarily increase response times to the project site. The northeastern portion of the golf course is provided access by a road fronting on March Lane and Brookside Lane (Figure 3). The SFD has determined that emergency access to this portion of the site could be expedited if access were provided closer to the intersection of March Lane and Brookside Lane.

Cul-de-sacs greater than 450 feet are also discouraged. The project proposes a cul-de-sac in the southwestern portion of the site. The department has indicated concern that there is only one way in and out of this residential portion of the site. If this access route were somehow blocked or made impassable, access to a fire or medical emergency could be delayed.

These impacts are considered significant, but could be reduced to a less-than-significant level by implementing the following measures:

Mitigation Measure

- The SFD has not determined specific measures that would be required to mitigate emergency access problems. However, possible measures that could improve access to the golf course include increasing access points to residential areas and reducing the length of cul-de-sacs to 450 feet or less. Fire service in these residential areas could also be improved by constructing residential sprinkler systems in all golf course dwellings. All access proposals should be coordinated with the requirements of the fire department.

Cumulative Impacts and Mitigation Measures

Impact: Increased Demand for Service

Additional staff and facilities would be needed to provide adequate fire and emergency services in north Stockton under the cumulative development scenario, based on current response time standards as described above. The SFD has determined that an additional fire station would be required on Thorton Road south of Eight Mile Road. This new station is expected to reduce the impact that would otherwise be placed on Station 10 by cumulative development in northwestern Stockton. According to the RHA study, the total cost for facilities, land, and a ladder truck at stations in the northwest and northeast would be $1.1 million by 2005. Due to existing staff and budget constraints, these requirements would represent a significant impact. This impact could be mitigated to a less-than-significant level by implementing the following measures.

Mitigation Measures

- Increase SFD staffing and facilities as recommended in the RHA study (Recht Hausrath & Associates 1987).
- Apply fire protection measures and fire flow standards to new development, as indicated above ("Project Impacts and Mitigation Measures").

ENERGY USE/GAS AND ELECTRICAL SERVICE

Information concerning gas and electrical service was provided by a representative of the Pacific Gas and Electric Company (PGandE) (Osborne pers. comm.).

Setting

Natural gas and electricity would be provided to the proposed project by PGandE. The nearest gas main connection is located near the eastern property line at March Lane. Electrical service would be provided from existing onsite electrical lines. The California Public Utilities Commission (CPUC) requires underground distribution of both gas and electricity for this type of development.

Project developers are expected to pay for extending underground gas mains and electrical service lines to the project site. Under normal circumstances, this cost can be refunded at a future date by the CPUC. Normal service costs for individual electrical service connections are approximately $7.63 per lot-front-door. Gas connection costs are based on site-specific estimates.

Project Impacts and Mitigation Measures

Impact: Increased Demand for Electrical and Gas Services

Development of the proposed project would incrementally increase the demand for natural gas and electrical services in the Stockton urban area. Cumulative annual gas consumption from the project at full buildout would be approximately 5.9 million therms, based on monthly estimates of 80 therms per housing unit and 440 therms per 1,000 sf of commercial space at a 20 percent floor-to-area ratio. Cumulative annual electrical consumption would be approximately 62.9 million kilowatt hours (kWh), based on monthly estimates of 600 kWh per housing unit and 6,400 kWh per 1,000 sf of commercial space. This total annual energy consumption does not represent a significant increase over current gas and electricity use in the Stockton urban area. There are no significant foreseeable problems associated with providing gas or electrical services to the project site as needed.

Mitigation Measures

- Although overall energy consumption from the project is not expected to create a significant adverse impact, a number of design and appliance measures are recommended (in addition to energy efficiency performance standards provided in Title 24 of the California Administrative Code) that would be beneficial in reducing cumulative gas and electricity demands from the project. The following measures should be incorporated into lot layout and structural design, if feasible, in consultation with PGandE, to maximize energy efficiency:

- Maximize southern orientation of housing units.

- Utilize both passive and active space heating systems.

- Require plantings, screenings, and overhangs.

- Window shading devices to shade west-facing walls.

- Maximize efficiency of heating and cooling equipment, and major appliances.

- Encourage use of solar water heating systems.

Cumulative Impacts and Mitigation Measures

Impact: Increased Demand for Service

Local consumption of natural gas and electrical services would increase substantially as a result of cumulative development projected in north Stockton. This increase would represent a less-than-significant impact, however, based on the long-range service capacity of PGandE and the

presumed gradual phasing of future development. Although no mitigation is required, the following measure is recommended to reduce future energy demand impacts.

Mitigation Measures

- Apply energy efficiency performance standards to and modify site and structure design of future development as described above ("Project Impacts and Mitigation Measures").